HW2

Due date: 04/19/2018

1. Durrett excercise 5.3.12

2. Durrett excercise 5.3.13

3. Durrett excercise 5.4.5

4. Durrett excercise 5.4.6

5. Suppose that $\{X_n\}$ is an integrable $\mathcal{F}_n$-adapted sequence such that $E(X_\tau) = E(X_0)$ for every bounded $\mathcal{F}_n$-stopping time τ. Show that $\{X_n\}$ must be a $\mathcal{F}_n$-martingale

6. Durrett excercise 5.5.1